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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/249,216	02/12/1999	JANNE LAAKSO	297-008493-U	9691

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EXAMINER

DEAN, RAYMOND S

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2618

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 09/249,216	Applicant(s) LAAKSO ET AL.	
	Examiner RAYMOND S. DEAN	Art Unit 2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 July 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-10, 12, 13, 15 and 19-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2-10, 13, 15, 19-25, 27 and 29-32 is/are rejected.
- 7) ☒ Claim(s) 12, 26 and 28 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 May 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 21 – 23, 25 – 27 have been considered but are moot in view of the new ground(s) of rejection.

Examiner respectfully disagrees with Applicants' assertion that Reed cannot be combined with Persson because they teach away from one another. Persson actually teaches an iterative procedure for controlling the power (See Col. 7 lines 47 - Col. 8 lines 1 - 26). Persson and Reed thus do not teach away from one another.

Claim Objections

2. Claims 2 – 13 and 15 are objected to because of the following informalities:
Claims 2 – 13 and 15 depend from higher number claims 25 and 26 thus Claims 2 – 13 and 15 need to be renumbered so that said claims are higher number than 25 and 26
Appropriate correction is required.
3. All of the new independent Claims 21 – 23, 25, 27, 30 – 32 include the “configured/arranged to impact **to** the control of other bearers”. Appropriate correction is required.

Claim Rejections - 35 USC § 101

4. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

5. Claim(s) 19 and 20 is/are rejected under 35 U.S.C. 101 as not falling within one of the four statutory categories of invention. While the claims recite a series of steps or acts to be performed, a statutory “process” under 35 U.S.C. 101 must (1) be tied to another statutory category (such as a particular apparatus), or (2) transform underlying subject matter (such as an article or material) to a different state or thing (Reference the May 15, 2008 memorandum issued by Deputy Commissioner for Patent Examining Policy, John J. Love, titled “Clarification of ‘Processes’ under 35 U.S.C. 101”). The instant claims neither transform underlying subject matter nor positively tie to another statutory category that accomplishes the claimed method steps, and therefore do not qualify as a statutory process.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claim 20 is rejected under 35 U.S.C. 102(e) as being anticipated by Persson et al. (6,067,446)

Regarding Claim 20, Persson teaches a power control method comprising:
forming a control function at least partly on the basis of a quantity which at least partly

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represents the fast fading experienced by at least one bearer (col. 4, lines 48-62, typical wireless systems such as CDMA systems comprise communication channels, which are bearers, that experience fading), calculating the control function in order to determine new output power values of said more than one bearer (col. 4, lines 48-62 and col. 5, line 51 through col. 8, line 39), calculating more than one set of output power values, forming a utility function in order to select one set of output power values (col. 5 lines 51 – col. 8 line 39, the utility function is the power control function of the base station), and selecting the set of output power values which minimizes the value of said utility function (col. 5 lines 51 – col. 8 line 39, the power control function of the base stations selects power levels that prevent increased levels of interference, in order for there to prevent increased levels of interference there will need to be minimal power values thus value of the power control function will be minimal).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 2 – 9, 13, 21 – 25, 27, 29 – 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Persson et al. (6,067,446) in view of Tiedemann et al. (6,137,840)

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Regarding Claims 21, 25, Persson teaches a software code configured and stored in a processor readable medium, wherein the software code is configured (Figure 3, Col. 5 lines 11 – 12, regional processor (9) runs software code, there will need to be memory for the storage of said software code) to/a power control method comprising: communicate at least partly on a spread spectrum technique configured for either at least one mobile station or at least one base station (col. 4 lines 48 – 62, CDMA is a spread spectrum system), define at least one bearer as a communication entity between the at least one base station and the at least one mobile station, the at least one bearer including variable factors containing transmission rate, delay, bit error rate and having an impact on the communication (col. 4, lines 48-62, typical wireless systems such as CDMA systems comprise communication channels, which are bearers, such channels are formed by the added effect of variable factors such as transmission rate, delay, bit error rate), calculate the control function in order to determine transmit power values to be used for at least one of said bearers (col. 5 lines 51 – col. 8 line 39), and determine the transmit power for more than one bearer when the transmission rate of the at least one bearer changes so that the control of said at least one of said bearers is arranged to impact the control of other bearers (col. 5 lines 51 – col. 8 line 39).

Persson form a control function at least partly on the basis of a quantity which at least partly represents the control history experienced by the at least one bearer.

Tiedemann teaches forming a power control function which is based on, at least partly, a quantity which at least partly represents the control history experienced by at

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least one bearer (Col. 14 lines 36 – 39, the quantity that represents the control history are the past generated full rate transmit power values).

Tiedemann (Col. 10 lines 55 - 56) also teaches, like Persson (Abstract), adaptive forward link power control in a variable rate system thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the above method of Tiedemann as an alternative means for achieving the same predictable result of adaptive forward link power control in a variable rate system.

Regarding Claims 22, 23, 27, 30, 31, 32 Persson teaches a base station/control unit/element comprising: a module configured to communicate at least partly on a spread spectrum technique for at least one mobile station and the base station (col. 4 lines 48 – 62, CDMA is a spread spectrum system), and wherein a bearer is defined as a communication entity between the base station and the at least one mobile station, the bearer including variable factors containing transmission rate, delay, bit error rate and having an impact on the communication (col. 4, lines 48-62, typical wireless systems such as CDMA systems comprise communication channels, which are bearers, such channels are formed by the added effect of variable factors such as transmission rate, delay, bit error rate), and a controller to control the transmit power of at least one bearer on the basis of transmit power values (col. 5 lines 51 – col. 8 line 39), said controller being so configured that when the transmit power of more than one bearer is configured to be determined when the transmission rate of at least one bearer changes, the controller to control the at least one of the bearers is configured to impact the control of other bearers (col. 5 lines 51 – col. 8 line 39).

Persson does not teach a generator to generate a quantity which at least partly depends on the control history experienced by at least one bearer, a device to determine the output power values for more than one bearer at least partly on the basis of said quantity.

Tiedemann teaches a generator to generate a quantity which at least partly depends on the control history experienced by at least one bearer, a device to determine the output power values for more than one bearer at least partly on the basis of said quantity (Col. 14 lines 36 – 39, the quantity that represents the control history are the past generated full rate transmit power values).

Tiedemann (Col. 10 lines 55 - 56) also teaches, like Persson (Abstract), adaptive forward link power control in a variable rate system thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the above method of Tiedemann as an alternative means for achieving the same predictable result of adaptive forward link power control in a variable rate system.

Regarding Claim 24, Persson in view of Tiedemann teaches all of the claimed limitations recited in Claim 23. Persson further teaches wherein the control unit is contained in a base station controller (Col. 4 lines 59 – 61, RNC is the base station controller).

Regarding Claim 29, Persson in view of Tiedemann teaches all of the claimed limitations recited in Claim 25. Persson further teaches controlling the powers of the bearers at least partly in clusters (col. 4 lines 48-62, 5 lines 51 – col. 8 line 39, typical wireless systems such as CDMA systems comprise communication channels, which are

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bearers, a plurality of bearers makes up a cluster), determining the clusters of each bearer according to the state of the bearer (col. 4 lines 48-62, typical wireless systems such as CDMA systems comprise communication channels, which are bearers), calculating a power vector in order to generate candidate values to be used as powers at the beginning of a next calculation period so that the transmit power of more than one bearer is arranged to be determined when the transmission rate of at least one bearer changes (col. 5 lines 51 – col. 8 line 39, the plurality of power values make up a power vector) and changing the transmission power of at least one bearer cluster in accordance with the calculated candidate values to control the at least one of the bearers so to also control other bearers (col. 5 lines 51 – col. 8 line 39).

Regarding claim 2, Persson in view of Tiedemann teaches all of the limitations as applied to claim 25 above. Persson also discloses that the control function is formed at least partly on the basis of an at least partial history of the power control of at least one bearer. See equation 16.

Regarding claim 3, Persson in view of Tiedemann teaches all of the limitations as applied to claim 25 above. Persson also discloses that the transmit power of more than one bearer is determined when the transmission of at least one bearer (belonging to M4) is initiated. See col. 5, line 51 through col. 6, line 8.

Regarding claim 4, Persson in view of Tiedemann teaches all of the limitations as applied to claim 25 above. Persson also discloses that the transmit power of more than

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one bearer is determined when the transmission of at least one bearer is terminated.

See col. 2, lines 16-27; col. 3, lines 25-35; and col. 7, lines 22-24.

Regarding claim 5, Persson in view of Tiedemann teaches all of the limitations as applied to claim 25 above. Persson also discloses that the transmit power of more than one bearer is determined when the transmit power of at least one bearer changes. See col. 3, lines 36-44.

Regarding claim 6, Persson in view of Tiedemann teaches all of the limitations as applied to claim 25 above. Persson also discloses that the transmit power of more than one bearer is determined when the target level of the correctness (frame error rate) of at least one bearer changes. See col. 7, lines 25-35.

Regarding claim 7, Persson in view of Tiedemann teaches all of the limitations as applied to claim 25 above. Persson also discloses that the transmit power of more than one bearer is determined when the transmission rate of at least one bearer changes. See col. 5, lines 51-60.

Regarding claim 8, Persson in view of Tiedemann teaches all of the limitations as applied to claim 25 above. Persson also discloses that the transmit power of more than one bearer is determined when at least one base station of at least one bearer is changed in a macro diversity combination. See col. 9, lines 51-64.

Regarding claim 9, Persson in view of Tiedemann teaches all of the limitations as applied to claim 25 above. Persson also discloses that the control function may be at

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least partly formed on the basis of the desired correctness levels (frame error rate) of the bearers. See col. 7, lines 25-35.

Regarding claim 13, Persson in view of Tiedemann teaches all of the limitations as applied to claim 25 above. Persson also discloses that the output power of more than one base station and the mobile stations managed by the base stations may be controlled with the method, and that the control function is formed partly on the basis of how strong the signal of each base station is received in at least one mobile station of each other base station. See col. 10, lines 4-12.

10. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Persson in view of Tiedemann as applied to claim 25 above, and further in view of Reed (U.S. Patent No. 5,574,984).

Regarding claim 10, Persson in view of Tiedemann teaches all of the limitations as applied to claim 25 above, but does not teach that the method comprises a step in which it is checked whether each determined output power value is within the range formed by the typical minimum and maximum limits of the respective bearer, whereby the output power values are taken in use if no one of the values is outside the region. However, Reed discloses a power control method which comprises checking whether an output power value is within a range formed by typical minimum and maximum limits of a bearer. This allows the method to account for the power limitations of the base station equipment. See col. 1, lines 45-59. It would have been obvious to one of

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ordinary skill in the art at the time of the invention to modify Persson in view of Tiedemann with Reed, such that the method comprises a step in which it is check whether each determined output power value is within the range formed by the typical minimum and maximum limits of the respective bearer, in order to stay within the limitations of the base station equipment.

11. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Persson in view of Tiedemann as applied to claim 25 above, and further in view of Haartsen (U.S. Patent No. 5,491,837).

Regarding claim 15, Persson in view of Tiedemann teaches all of the limitations as applied to claim 25 above, but does not teach that the method comprises a step in which a decision is made on the basis of the generated output power values for allowing the transmission of at least one bearer. However, Haartsen discloses a bearer allocation method which uses generated output power value measurements for deciding which bearers to use for transmission. This allows the system capacity to be maximized because the bearers having the minimum required transmission power are allocated. See col. 3, line 34 through col. 4, line 7. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Persson in view of Tiedemann with Haartsen, such that a decision is made on the basis of the generated output power values for allowing the transmission of at least one bearer, in order to maximize system capacity.

Allowable Subject Matter

12. Claims 26, 28 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: Claim 26 is allowable for the same reasons set forth in the Office Action dated January 10, 2002. Claim 12, which depends from Claim 26 is allowable for the same reasons set forth above.

Regarding Claim 28, The prior art of record fails to teach or show the feature of **selecting said at least one transmission on the basis of which transmission has a corresponding candidate power value in the power vector with the greatest ratio to the number of correctly received bits of said transmission during the previous calculation period**

Conclusion

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to RAYMOND S. DEAN whose telephone number is (571)272-7877. The examiner can normally be reached on Monday-Friday 6:00-2:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward F. Urban can be reached on 571-272-7899. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Raymond S Dean/
Primary Examiner, Art Unit 2618

Raymond S. Dean
October 29, 2008